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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09 592,124	06 12 2000	Zoran Krivokapic	E0056 1663P	4928

7500 05 20 2003  
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EXAMINER

PHAM, LONG

ART UNIT PAPER NUMBER

2814

DATE MAILED: 05 20 2003

Please find below and or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/592,124

Applicant(s)

KRIVOKAPIC, ZORAN

Examiner

Long Pham

Art Unit

2814

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) 1-8 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 9-16 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s) \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

### DETAILED ACTION

1. In view of the appeal brief filed on 02/05/03, PROSECUTION IS HEREBY REOPENED. New grounds of rejection are set forth below.

To avoid abandonment of the application, appellant must exercise one of the following two options:

(1) file a reply under 37 CFR 1.111 (if this Office action is non-final) or a reply under 37 CFR 1.113 (if this Office action is final); or,

(2) request reinstatement of the appeal.

If reinstatement of the appeal is requested, such request must be accompanied by a supplemental appeal brief, but no new amendments, affidavits (37 CFR 1.130, 1.131 or 1.132) or other evidence are permitted. See 37 CFR 1.193(b)(2).

### *Claim Rejections - 35 USC § 103*

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 9, 10, 11, 13, 14, 15, and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dennison et al. (US '854).

Dennison et al teach a system for forming a channel device comprising:  
means for providing an active region or substrate 12 wherein the active region comprises a plurality of discontinuous gate structures 16, 20, 24 (fig. 1 and associated text); and

means for providing an ion implantation in the active region.

With respect to claim 10, Dennison et al further teach means for masking the plurality of gate structures prior to ion implantation. See fig. 2 and associated text.

With respect to claim 11, Dennison et al further teach that the active region comprises three gate structures 16,20,24. See fig. 1 and associated text.

With respect to claim 13, Dennison et al further teach that ion implantation comprises a lightly doped drain implant 42. See fig. 2 and associated text.

With respect to claims 14 and 15, Dennison et al further teach that ion implantation comprises a halo implant 44. See fig. 2 and associated text.

With respect to claim 16, it is well-known in the semiconductor art that the gate structure are connected to gate voltage source in order to operate or function.

Dennison et al. teach forming the plurality of gate structures on a single active region 12 but fail to teach that the active region is formed on a substrate as recited in claim 9.

However, the formation of devices on an active region on a substrate is well-known.

4. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Dennison et al. (US '854) as applied to claims 9, 10, 11, 13, 14, 15, and 16 above, and further in view of the following remarks.

Dennison teaches each of the three gate structures comprises a channel length and disposed at a distance apart, but fails to teach the range for the channel length and separated distance as recited in present claim 12.

However, it would have been obvious to *one of ordinary skill in the art of making semiconductor devices* to determine the workable or optimal range for the

channel length and separated distance through routine experimentation and optimization to obtain optimal or desired device performance.

### ***Response to Arguments***

On pages 4 and 5 of the appeal brief filed 02/05/03, the appellant argues that Dennison does not disclose "means for providing an active region on a substrate wherein the active region comprises a plurality of discontinuous gate structures" as recited in appealed claim 9. Specifically, the appellant argues that the gates or gate structures of Dennison are formed on different active regions and/or wells, not on a single active region as recited in present claim 9.

It is noted that the appellant's invention appears to be forming multiple gates on a single active region in a substrate. However, this is not what is recited in appealed claim 9. Claim 9 recites that "the active region comprises of plurality of discontinuous gate structures". The recitation of "comprises" in the limitation allows inclusion of other elements such as other active regions or sub-regions on the active region or substrate 12. Although, Dennison teaches that multiple gates are formed on different active regions and/or wells, all of the active regions and/or wells are formed on a single active region or substrate 12. See fig. 1 of Dennison.

On pages 6 and 7 of the appeal brief filed 02/05/03, the appellant argues that Dennison does not disclose "means for masking the plurality of the gate structures prior to the ion implantation" as recited in appealed claim 10. Specifically, the appellant argues that only of two of the gates or gate structures of Dennison are masked before the ion implantation.

However, it is noted that "plurality of gate structures" means at least two gate structures. With this interpretation, Dennison teaches masking the plurality of gate structures prior to the ion implantation as recited in present claim 10. See fig. 2 of Dennison.

On page 7 of the appeal brief filed 02/05/03, the appellant argues that Dennison does not disclose "wherein the active region comprises three gate structures" as recited in appealed claim 10. Specifically, the appellant argues that Dennison discloses that three gates are located on three active regions.

The appellant is directed to the response to arguments regarding appealed claim 9 above.

On pages 8 and 9 of the appeal brief filed 02/05/03, the appellant argues that the channel length of the gate structure and the relative distance between the gate structures as recited in appealed claim 10 are not optimizable.

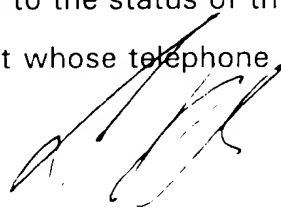
However, the appellant fails to show that the claimed channel length and relative distance are critical or produce any unexpected results.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Long Pham whose telephone number is 703-308-1092. The examiner can normally be reached on M-F, 8:30AM-5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wael Fahmy can be reached on 703-308-4918. The fax phone numbers for the organization where this application or proceeding is assigned are 703-746-4082 for regular communications and 703-746-4082 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.



Long Pham  
Primary Examiner  
Art Unit 2814

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L. P.

May 19, 2003